

1125-C1-3131 **John S Caughman*** (caughman@pdx.edu), PO Box 751, Portland, OR 97207. *Avoiding minimal elements in the poset of ways to introduce posets.*

Partially ordered sets (posets) and their properties are a common feature of many undergraduate courses in Discrete Mathematics. Since they are easy to define using simple logical expressions and familiar mathematical concepts, posets offer students opportunities to sharpen their proof skills and reinforce their knowledge of sets and relations. Motivating or contextualizing posets, however, can be challenging, and a rushed treatment can result in a misrepresentation of posets as little more than an academic exercise in abstract formalism.

In this talk, I will share ideas and activities that have remedied this issue in my own classroom. With accessible, open-ended tasks involving little more than systems of linear equations, students at many levels can engage and develop an intellectual need for posets through a number of surprising but natural entry points. Generating discourse and activity rich with conjecture and proof, these tasks also offer launch points for other combinatorial properties of posets, such as maximal chains, rank functions, and the notorious problem of counting linear extensions. (Received September 21, 2016)